CHARTER FOR
SINGLE INTEGRATED AIR PICTURE
SYSTEM ENGINEERING TASK FORCE

1. References. See Enclosure A.

2. Purpose. To establish a task force within the Department of Defense (DOD) responsible for the systems engineering necessary to develop recommendations for systems and system components that collectively provide the ability to build and maintain a Single Integrated Air Picture (SIAP) capability.

3. Applicability. The provisions of this charter apply to the Office of the Secretary of Defense (OSD), the Military Departments, the Joint Chiefs of Staff, the combatant commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, and the DOD field activities (hereafter referred to collectively as the DOD Components).

4. Mission. The mission of the Single Integrated Air Picture System Engineering (SIAP SE) Task Force is to identify the most effective and efficient means to achieve a SIAP that satisfies the warfighter needs. The SIAP SE will satisfy this mission by implementing a disciplined systems engineering process. This process will yield recommendations for fielding a SIAP, which will lead to measurable improvements in warfighting capability. The SIAP SE must consider the entire spectrum of alternatives (including training and tactics, techniques, and procedures) to make recommendations on the most cost-effective means to achieve the SIAP. The SIAP is not the end-state; it is part of a larger construct that must be engineered so it can easily migrate toward, and support a common tactical picture (CTP). As such, it is recognized that the SIAP supports joint forces air component commander (JFACC) mission areas involving the tactical employment of airpower. An incremental approach is needed to develop and implement improvements to command and control of existing systems and the integrated architectures within which these systems operate while the SIAP is being developed. In the end, the product of the SIAP SE recommendations will be combat-ready, operationally certified equipment and computer programs that enable the warfighter to build and maintain a SIAP, and inputs to tactics, techniques, and procedures necessary to operate the C2 components of an integrated system. The SIAP SE will not establish operational requirements, but will provide technical expertise to aid requirements development. Requirements validation is the purview of the Joint Requirements Oversight Council (JROC) via the Joint Theater Air and Missile Defense (JTAMD) process and other relevant processes.

5. Definition

a. Single Integrated Air Picture. SIAP is defined in the JROC-validated Theater Missile Defense (TMD) Capstone Requirements Document (CRD): "Single Integrated Air Picture (SIAP) --The product of fused, common, continual, unambiguous tracks of airborne objects in the

surveillance area." The SIAP definition will be refined as the JROC validates the theater air and missile defense (TAMD) and combat identification (CID) CRDs.

b. The SIAP provides the warfighter the ability to better understand the battlespace and employ weapons to their designed capabilities. The SIAP will support the spectrum of offensive and defensive operations by US, allied, and coalition partners in the airspace within a theater of operations (e.g., attack operations, suppression of enemy air defenses, air and missile defense, intelligence preparation of the battlefield). The SIAP is accomplished through a combination of materiel and nonmaterial improvements.

6. Requirement

a. The TMD CRD (dated July 98) specifies SIAP as a critical operational requirement. Additionally, the TAMD and CID draft CRDs (references l and m) will provide amplifying detail regarding the SIAP, when they have been validated by the JROC. The Global Information Grid (GIG) CRD, also under development, is expected to articulate the requirements for a globally interconnected, end-to-end set of information capabilities and associated processes. The SIAP SE will ensure system-engineering efforts are coordinated with GIG concepts as those concepts mature.

b. The SIAP, as a subset of the CTP, will be a critical enabler of improved battle management and enhanced situational awareness. Technical requirements for creating the SIAP will be a result of structured and highly disciplined joint systems engineering process directed by this charter.

c. This charter recognizes the fluid nature of present concept definitions such as joint planning network (JPN), joint data network (JDN), and joint composite tracking network (JCTN). The SIAP SE will assist the Joint Theater Air and Missile Defense Organization (JTAMDO) in defining these terms and will ensure the system engineering process is responsive to the evolution of concepts such as these. An initial focus of the organization will be on establishing recommendations for near-term JDN improvements on the path to a SIAP capability.

d. The SIAP SE task force will not establish operational requirements, but will provide technical expertise to aid requirements and concept of operations development. Operational requirements will be generated by the JTAMD process or other user representative as appropriate and used to guide the work conducted by the SIAP SE task force. The SIAP SE task force will not pursue materiel solutions without validated operational requirements. The SIAP SE task force must utilize validated operational requirements from approved operational requirements documents (ORDs) and/or CRDs.

7. Background

a. The TMD CRD specified SIAP as a critical operational requirement and describes the required characteristics of a SIAP.

b. The 1999 Joint Theater Air and Missile Defense Flag Officer/General Officer (FO/GO) Workshop emphasized the need for a SIAP.

c. DOD has substantial evidence that significant warfighting capability shortfalls exist today in the joint counterair mission area (as defined in Joint Publication 3-01, Joint Doctrine for Countering Air and Missile Threats). Post action reports from military operations, training exercises, and evaluations such as All-Service Combat Identification Evaluation Team (ASCIET), point to specific issues that must be addressed to meet the requirements articulated in the TMD CRD. Because of the prevalence of these shortfalls, the JROC recommended designation of a lead systems engineering organization to facilitate the transition of the SIAP requirement from concept to a fielded joint capability.

d. Over the past few years, there have been numerous engineering analysis efforts to define more clearly potential battle management command, control, communications, computers, and intelligence (BMC4I) engineering solutions to documented problems. Through these efforts, many of the root causes have been identified. Ongoing, independent efforts have proven to be ineffective in providing the integrated, interoperable systems that will achieve the SIAP. Inadequate cross-service engineering and integration, and different implementation of standards have characterized these activities. A joint systems engineering approach is necessary to isolate and solve root causes of the interoperability problems plaguing the establishment of a SIAP.

8. Organization and Management

a. The SIAP SE is established under the authority of the Secretary of Defense, reporting to the Department of the Army Acquisition Executive (AE). The Service AEs, ballistic missile defense (BMD) AE and/or relevant program managers will be provided the opportunity to provide input regarding the executability, schedule risk, and cost of alternatives to be presented to the JROC. The SIAP SE will respond to commander-in-chief (CINC) issues, through US Joint Forces Command (USJFCOM) for joint force integration and interoperability matters and in-service support to combatant commanders. In accordance with the SIAP SE JROC memorandum and the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD(AT&L)) implementation guidance, the US Army will serve as the SIAP AE, the US Navy will provide the lead SE, and the US Air Force will provide the Deputy Lead Engineer for the SIAP SE task force.

b. The SIAP SE lead system engineer will be a FO/GO permanently assigned to the organization with SIAP SE as his/her primary responsibility. The SIAP SE will be a small, collocated task force, staffed by the Services not to exceed 30 personnel. The determination of future staffing will be evaluated by the JROC as part of the periodic performance review process. The SIAP SE shall draw support, as required, from program offices, and through contracts as necessary with industry, and Federally Funded Research and Development Centers (FFRDCs) to support conduct of the mission.

c. The SIAP SE will be organized to execute system engineering functions as appropriate to the specific duties and responsibilities listed below.

d. The SIAP SE will draw assistance and oversight from a council comprised of the three Service AEs (or their Principal Deputies) and the BMD AE and three-star level representatives from the Services.

9. Responsibilities and Authority

a. The JTAMD executive committee will provide guidance for the resolution of critical SIAP issues.

b. The DOD Chief Information Officer (CIO) and Office of the Assistant Secretary of Defense/C3I (OASD/C3I) will:

(1) Review and concur on requested waivers to the Joint Technical Architecture (JTA). (CIO)

(2) Assist in the evolution of the SIAP Integrated Architecture to include rationalization and synchronization with other integrated architecture efforts. (CIO)

(3) Sponsor the review and approval of the SIAP Integrated Architecture by the DOD Architecture Coordination Council (ACC). (CIO)

(4) Review and approve requested waivers of SIAP from the Defense Information Infrastructure (DII) Common Operating Environment. (CIO)

(5) Provide oversight, direction, and assistance for the Information Technology (IT) and National Security System (NSS) portions of SIAP. (CIO)

(6) Exercise oversight over those portions of the SIAP that involve command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) acquisition and policy. (C3I)

(7) Plan and implement joint and combined end-to-end C4ISR and Space integration efforts in conjunction with the SIAP SE functions. (C3I)

(8) Review and comment on a SIAP C4I Support Plan (C4ISP). (C3I)

(9) Provide tactical digital information link (TADIL) policy and C3I compatibility, interoperability, integration, and oversight. (C3I)

(10) Provide interoperability standardization, oversight, and guidance for SIAP-related TADIL issues through dialogue and interface with the Tactical Data-Link Working Group (TDLWG) and oversight of the Joint Tactical Data-Link Management Plan (JTDLMP). (C3I).

c. The Director, Operational Test and Evaluation (DOT&E) will:

(1) Provide oversight of operational test and evaluation activities in accordance with section 2399 of reference (a).

(2) Provide independent verification and validation for SIAP SE efforts across the life cycle.

d. The Director, Ballistic Missile Defense Organization (BMDO) will:

(1) Participate in the JTAMD process.

(2) Assist in the development of the SIAP operational views of the integrated architecture.

(3) Support, as required, the SIAP system engineering effort.

(4) Work with the SIAP AE to establish a memorandum of agreement (MOA) detailing respective TAMD system architectures and SIAP system engineering roles and responsibilities.

(5) Make the changes/develop new capabilities for systems, for which they are the AE.

(6) Translate BMD operational requirements into system specification requirements for SIAP.

(7) Budget for validated and approved SIAP-related efforts and coordinate Program Objective Memorandum (POM) data submission for SIAP-related improvements with the SIAP AE.

e. Defense Information Systems Agency (DISA) Joint Interoperability Engineering Organization/Joint Interoperability Test Command (JIEO/JITC) will:

(1) Provide interoperability certification support as defined in the JITC charter.

(2) Provide support, as required, in resolving issues associated with SIAP.

f. The JROC will:

(1) Act as the authority overseeing the SIAP development process for matters of operational requirements and prioritization of engineering solutions.

(2) Validate key performance parameters (KPPs) in new or modified Acquisition Category (ACAT) 1/1A, ID, IAM and special-interest ORDs that materially affect the SIAP.

(3) Ensure resource allocation matches the operational need for SIAP by making recommendations to the SIAP AE and USD(AT&L) to resolve budget shortfalls.

(4) Verify that Services have implemented corresponding Service-specific solutions approved by the JROC.

(5) Review and approve recommended fixes to the JDN, JCTN, and other networks.

(6) Conduct periodic reviews of the SIAP SE performance, achievements, and processes.

(7) Make recommendations to USD(AT&L) regarding needed modifications to the SIAP SE management structure or mission termination.

g. The Director for Force Structure, Resources, and Assessment (J-8) will:

(1) Assist in monitoring progress of individual program efforts and in the coordination of SIAP-related activities with Congress and DOD components.

(2) Monitor development of SIAP requirements.

(3) As JROC Secretary, present to the JROC any JTAMD process findings relative to the implementation of SIAP solutions.

h. JTAMDO will:

(1) Perform SIAP-related POM analysis and make recommendations to the JROC for resource synchronization.

(2) Review SIAP SE recommendations prior to submission to JROC to ensure they are consistent with broader TAMD operational requirements, architectures, and priorities.

(3) Conduct analysis to measure relative worth of prospective levels of SIAP performance measures.

(4) Integrate CRD-specified and Service-unique SIAP operational requirements and operational concepts.

(5) Ensure that SIAP operational requirements are supportive of the JTAMD requirements that the SIAP is intended to support.

(6) Assess the operational suitability and effectiveness of alternative solutions proposed by the SIAP SE.

(7) Make doctrine and tactics, techniques, and procedures (TTP) recommendations to U.S. Joint Forces Command (USJFCOM) for use in joint experimentation, which could materially affect the cost/outcome of the SIAP SE effort.

(8) Track the implementation of Service-specific engineering solutions approved by the JROC, as well as the implementation of new programs initiated to address SIAP deficiencies.

(9) Develop and update operational views of the TAMD integrated architecture, which, together with the TMD and draft TAMD CRD, capture SIAP operational requirements.

(10) Participate in the JTAMD process.

i. USJFCOM will:

(1) Serve as the focal point for collection and articulation of combatant commands' interests in requirements in TAMD.

(2) Serve as the Chairman's chief advocate for interoperability in accordance with reference (e).

(3) Provide feedback to the SIAP SE, regarding the performance of SIAP systems in operations, evaluations, exercises, tests, and joint experimentation.

(4) Ensure the required joint doctrine and TTP changes are accomplished to parallel the SIAP SE recommended incremental material improvements to achieve a SIAP.

(5) Use the joint experimentation regimen to develop improved TTP for SIAP.

j. The Services will:

(1) Identify and provide personnel from appropriate systems command/program executive officer/program manager (SYSCOM/PEO/PM), laboratories, and field activities to become part of the SIAP SE staff.

(2) Provide operational and systems engineering expertise to the SIAP SE.

(3) Participate in SIAP SE-led engineering efforts to improve the performance of systems that will contribute to developing a SIAP.

(4) Assist in characterization of issues, including problem and root-cause identification, determination of operational impact, and identification of temporary near-term fixes or changes in TTPs that can alleviate symptoms while a longer-term solution is engineered.

(5) Assist in conducting engineering and systems analysis/system trades for the determination of cost-effective SIAP upgrades to legacy systems.

(6) Assist in building a prioritized list of candidate improvements, including warfighting benefit estimates and anticipated implementation costs, for validation by the JROC.

(7) Implement SIAP SE-recommended and JROC-validated fixes to currently fielded systems and architectures using a joint Service coordinated timeline.

(8) Assist in testing and certification process for SIAP SE-proposed and JROC-validated improvements.

(9) Participate in SIAP SE-led joint engineering efforts that will lead to convergence of future systems.

(10) Budget for validated and approved SIAP-related efforts and coordinate POM data submission for SIAP-related improvements.

(11) Adhere to SIAP operational requirements when validating operational concepts, mission needs statements (MNSs), and ORDs for Service SIAP programs.

(12) Verify, validate, and accredit all models and simulations of their systems used in SIAP analyses.

(13) Participate in the JTAMD process.

k. The SIAP AE will:

(1) Be the single authority directing the SIAP SE lead engineer.

(2) Provide overall acquisition management functions.

(3) Serve as the reporting authority for the SIAP SE lead engineer. Provide guidance for the resolution of critical programmatic and technical issues.

(4) Perform POM analysis and recommendations for resource synchronization.

(5) Oversee the formulation of the SIAP budget and its submission to OSD for review and approval.

(6) Review and approve SIAP SE detailed implementation plan, consistent with JROC-validated priorities and the JTAMD Master Plan.

(7) Evaluate appropriateness of proposed acquisition solutions for economic and management efficiency.

(8) Evaluate proposed materiel solutions based on established operations needs.

(9) In coordination with the other Service AEs, deconflict priorities among competing materiel solutions that could fulfill the same operational requirement.

(10) Negotiate and execute MOAs with BMDO and Service AEs outlining their interaction with the SIAP SE.

(11) Advise the USD(AT&L) on all matters relating to SIAP acquisition and logistics management.

(12) Execute the acquisition function and the acquisition management system of the SIAP task force.

(13) Review and assess changes in the SIAP SE efforts.

(14) Delegate decision authority as necessary and appropriate.

(15) Serve as Chair of the SIAP SE Oversight Council.

l. The SIAP Oversight Council will:

(1) Assist the SIAP AE in the execution of his/her duties.

(2) Review critical programmatic and technical issues and advise SIAP AE.

(3) Meet quarterly or as requested by the SIAP AE.

m. The SIAP SE will:

(1) Develop and maintain a disciplined system engineering process and use that process to develop and integrate a SIAP capability. Efforts will be limited to those areas in the following subjects, and only as they relate to the SIAP:

(a) TAMD BMC4I systems

(b) JDN and systems that express JDN functionality

(c) JCTN (pending validation of a JCTN requirement)

(d) Other Joint TADILs, networks, advanced concept technology demonstrations (ACTDs), or upgrades as may be assigned by USD(AT&L) or ASD/C3I and approved by the JROC.

(2) Develop and maintain a detailed implementation plan (including an engineering development roadmap) for the specific items to be accomplished by the SIAP SE and reflect their relationships to DOD components that may also be affected by the SIAP.

(a) The SIAP implementation plan shall include a strategy for near-, mid-, and far-term implementation.

(b) The SIAP implementation plan shall include how designated integration and interoperability issues, which are external to the SIAP responsibilities, will be handed over to the appropriate DOD activity for resolution.

(c) The SIAP implementation plan shall identify time-phased measures of progress for achieving SIAP capability.

(3) Report to the SIAP AE.

(4) Focus initial efforts on identifying, prioritizing, and recommending fixes to the existing JDN deficiencies, while ensuring these fixes are on the path to an effective SIAP capability.

(5) Submit recommendations for JDN improvements to the JTAMD process, SIAP AE, and JROC for approval.

(6) Work closely with SYSCOMs, PEOs, and PMs as they implement JROC-approved fixes to fielded and emerging systems.

(7) Work directly with the DOT&E and other relevant agencies for coordination of SIAP-related test and evaluation activities and for arranging independent verification and validation.

(8) Establish the required collaborative engineering environment (including simulations and hardware-in-the-loop capabilities), for problem investigation, and the development, testing, and validation of the equipment and computer programs that build and maintain the SIAP. Provide feedback from the test and evaluation process to USJFCOM so this information can be used to refine TTPs.

(9) Support the JTAMD process in developing the operational views of the TAMD integrated architecture.

(10) Supported by the JTAMD process, use a disciplined system engineering process to develop the system and technical views of the SIAP component of the TAMD integrated architecture, to include an overall time-phased development and deployment schedule, ensuring this work is consistent with and supports the operational views of the TAMD integrated architecture. Ensure the work to define the system views is consistent with and supports the common operational picture/common tactical picture “family of interoperable operational pictures” initiative.

(11) Coordinate SIAP-related efforts with other DOD research, development, test, and evaluation efforts.

(12) Oversee, in coordination with appropriate DOD components, the participation of US, allies, and coalition partners in SIAP-related technical cooperation programs.

(13) Work with DISA JIEO/JITC for coordination of interoperability standards and certification.

(14) Serve on boards, committees, integrated product and process development teams, and other groups pertaining to SIAP activities, functions, and responsibilities consistent with the scope of this Charter.

(15) Coordinate with ASD/C3I for modifications to the Joint Technical Architecture required achieving a SIAP.

(16) Be the single point of contact to respond to combatant commanders requests for technical information relative to SIAP.

(17) Provide technical support, data analysis, and recommendations for SIAP evaluation during the conduct of the All-Service Combat Identification Evaluation Team (ASCIET) evaluations.

(18) Develop a POM and budget for the accomplishment of assigned work of the SIAP SE task force.

10. Effective Date. This charter is effective upon signature of the parties listed below. The JROC will review the SIAP SE Charter and organizational accomplishments in 2002 to make recommendations to the USD(AT&L) on the organization's future. If the JROC determines this organization will remain viable beyond 2 years, the JROC will consider rotation of SIAP SE leadership among the Services. The Charter will be updated as necessary to comply with requirements, regulations, and standards mentioned in the References section of this Charter.

RICHARD B. MYERS
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Vice Chairman, Joint Chiefs of Staff

DR. JACQUES GANSLER
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ARTHUR L. MONEY
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ENCLOSURE A

REFERENCES

a. Title 10, United States Code

b. Federal Acquisition Regulation 202.101, 1 April 1984, as supplemented by Defense FAR Supplement (DFARS) 2.1

c. Department of Defense Directive 4630.5, 12 November 1992, "Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems"

d. Department of Defense Instruction 4630.8, 18 November 1992, "Procedures for Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems"

e. Chairman of the Joint Chief of Staff Instruction 3170.01A, 10 August 1999, "Requirements Generation System"

f. Chairman of the Joint Chief of Staff Instruction 6212.01B, 8 May 2000, "Compatibility, Interoperability, Integration, and C4 Supportability Certification of Command, Control, Communications, Computers, and Weapon Systems"

g. Department of Defense Directive 5134.9, 14 June 1994, "Ballistic Missile Defense Organization (BMDO)"

h. Memorandum for Secretaries of the Military Departments, Chiefs of the Military Services, Assistant Secretary of Defense (C3I), Director, BMDO, signed by the Vice Chairman of the Joint Chief of Staff and Under Secretary of Defense (Acquisition and Technology), 14 November 1996, Subject: Management of Theater Air and Missile Defense Activities

i. Joint Interoperability Engineering Organization (JIEO)/Joint Interoperability Test Command (JITC) Circular 9002

j. JROCM, Single Integrated Air Picture (SIAP) System Engineer (SE) Concept, 20 March 2000

k. Theater Missile Defense (TMD) Capstone Requirements Document (CRD), 31 July 1998

l. Theater Air and Missile Defense (TAMD) CRD (Draft), 12 April 2000

m. Combat Identification (CID) CRD (Draft), July 1999

n. TAMD Master Plan, December 1999

o. Clinger-Cohen Act (PL 104-106)